



TERRA ENVIRONMENTAL, LLC
PLANNING | CONSULTING | MANAGEMENT | REMEDIATION

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February 12, 2018

Mark Andrews
Town Administrator
Town of Pepperell
1 Main Street,
Pepperell, MA 01463

Subject: 161 Nashua Road Reclamation Project

Dear Mr. Andrews:

On behalf of Mass Composting Group/ David Burton, TERRA Environmental, LLC is pleased to provide the Town of Pepperell with this letter summarizing the Reclamation of Quarry located at 161 Nashua Road in Pepperell, MA. The following letter and attachment summarizes our approach to reclaim and develop 50-acre Quarry located at 161 Nashua Road in Pepperell, MA

The purpose of this reclamation project is to improve current topographic conditions by restoring elevations and prepare the property for future development and install a sustainable vegetative cover. The reclamation project will accept, receive and place similar soils in a manner that is protective of human health, safety and the environment. No waste material of any type or description, including solid waste will be accepted. The Soil Management Plan will be prepared describing procedures to evaluate potential soil source sites; monitor and place soils as they are received; conduct inspections of the ongoing operations; and stabilize the Site after soils are received and before the long-term development plans are implemented.

It is anticipated that approximately 4-million yards of soil will be received over the course of the project. Anticipated sources of fill material include large volumes of excess soil from excavation and construction projects in Massachusetts, as well as qualified soils from Maine and New Hampshire. The intended fill material will include native deposits of soil including sand, gravel, organic soils, estuarine deposits, marine sands, glacial till, clay, fill soils, and soil/slurry mixtures from foundation installations. Soil intended for reuse in the filling operation must meet the Acceptance Criteria established for this location. The derivation of the Acceptance Criteria is based on MassDEP's Similar Soils Policy WSC#-13-500 and Policy #COMM-15-01 (Interim Policy on the Re-use of Soil for Large Reclamation Projects), Massachusetts Contingency Plan (MCP) and any other applicable state and federal regulations. All Reclamation soil will be sampled and analyzed under the supervision of a Licensed Site Professional (LSP) prior to accepting them for reuse by the Project.

The reclamation project would be undertaken pursuant to MassDEP policies including the

- Similar Soils Policy WSC#-13-500 and
- MassDEP, Policy #COMM-15-01, Interim Policy on the Re-use of Soil for Large Reclamation Projects (i.e. quarries, sand and gravel pits).

MassDEP has developed and utilizes Policy #COMM-15-01 to issue an Administrative Consent Orders (i.e. permits) to Reclamation Project owners and operators as a method to allow reclamation and development of sand pits, gravel pits quarries and other similar underutilized properties. The Administrative Consent Order (ACO) permit will incorporate the methods and procedures to be followed during the management and execution of the reclamation project.

We respectfully request that the Town to review this letter and provide...

- **Letter of support**

If you should have any questions or require additional information, please do not hesitate to contact David Burton or myself directly at your convenience.

Respectfully submitted,
TERRA ENVIRONMENTAL, LLC



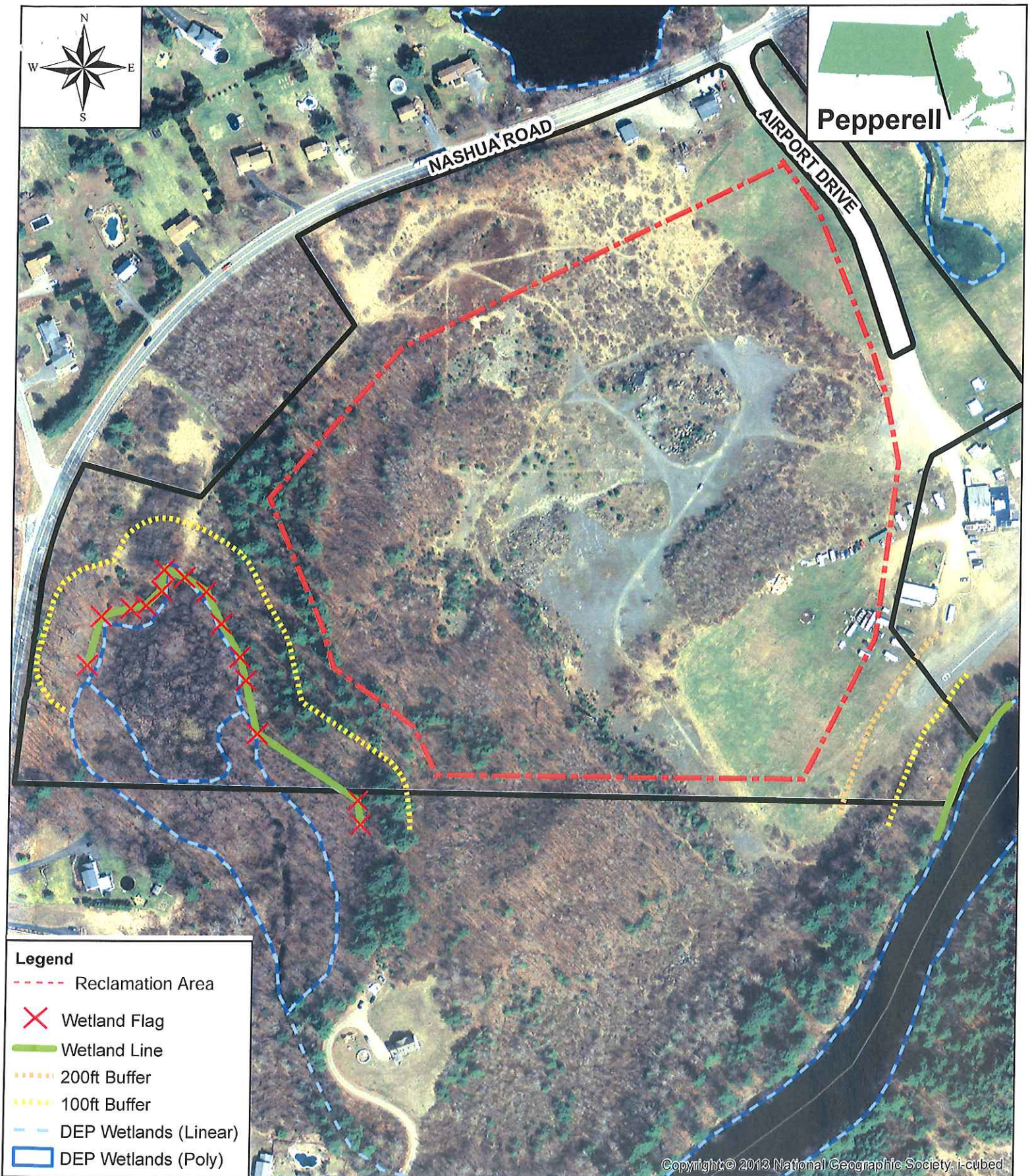
Philip M. Peterson, LSP
Principal Consultant / Manager

ATTACHMENT A: RECLAMATION PROJECT AREA

CC:

ATTACHMENT A

RECLAMATION AREA



Oxbow Associates, Inc.
 Wetlands Delineation and Permitting
 Wildlife Studies • Herpetology
 Vernal Pool Ecology
 P.O. BOX 971
 ACTON, MASSACHUSETTS 01720
 PHONE: (978) 929-9058
 FAX: (978) 635-1892
 WEB: www.oxbowassociates.com

1:3,000
 1 inch = 250 feet
 250

0 500
 Feet

Figure-2 Proposed Reclamation Area
161 Nashua road
Pepperell, MA

Base Map-Wetlands Buffer/2013 Orthophotograph



OXBOW ASSOCIATES, INC.

Wetlands Delineation and Permitting • Wildlife Studies • Herpetology • Vernal Pool Ecology

January 29, 2018

Mr. Bill Scott
Mass Composting Group, Inc
161 Nashua Rd.
Pepperell, MA 01463

**Re: Wetland Resource Area Evaluation
161 Nashua Road, Pepperell, MA**

Dear Mr. Scott:

In response to your request, Oxbow Associates, Inc. (OA: specifically M. Charpentier) reviewed the above referenced site with specific regard to wetland resource areas on January 9th 2017, with approximately 8 inches of snow on the ground, and a subsequent visit on January 24th by which time most snow had melted on the site. This evaluation was conducted in accordance with standard methodology for delineating vegetated wetlands under the Massachusetts Wetlands Protection Act (MGL Ch. 131, §40; the "Act"), and the Town of Pepperell Wetland Protection Bylaw (the "Bylaw").

Existing Conditions and Wetland Resource Areas

This site is located east of Nashua road (Route 111), south of Skydive Pepperell, and west of the Nashua River. The property consists of a single parcel, encompassing approximately 44.5 acres predominantly composed of mixed deciduous forest, early successional forest, maintained fields, and partly overgrown gravel pit. The parcel is largely undeveloped, with the exception of an auto body shop and garage adjacent Nashua Road. The site contains a Bordering Vegetated Wetland (BVW: Series A), a Riverfront area with associated Bank (Series B) whose wetland buffer and Riverfront area buffer extend onto the site, as well as two offsite Bordering Vegetated Wetlands which extend onto the site. The positions of the latter two were traced onto the attached map (Figure 1) using the 2009 Department of Environmental Protection Wetlands Polygons. Additionally, portions of the site exist in as Bordering Land Subject to Flooding (BLSF) within 100-year flood zones associated with the Nashua River and the BVW associated with the site.

OA examined the soil conditions (representative upland soil profile below) and vegetation and delineated one section of a Bordering Vegetated Wetland (BVW: 310 CMR 10.55) with 14 blue plastic flags in a single series (OA A1-A13, with A5B between A5 and A6). The wetland is composed of swamp/shrub swamp, it lacks an inlet and flows off the property from north to south, via an unnamed stream, draining into the Nashua River 0.25 miles away.

P.O. Box 971 • Acton, Massachusetts 01720-0971

Telephone: 978.929.9058 • Facsimile: 978.635.1892 • E-mail: oxbow@oxbowassociates.com

One upland soil profile, located 2 feet northeast from flag A5B, was documented in detail. The mapped soil type is Quonset sandy loam (U.S. Dept. of Agriculture, Web Soil Survey).

O: 1-0" organic debris

A: 0-10" 10 YR 3/3

Bw: 10-18" 2.5 Y 5/4

18" refusal/rock, unable to collect samples deeper

This soil profile does not qualify as hydric because the chroma of the Bw horizon is too high to indicate frequent saturation and mineral leaching.

Vegetation within the BVW includes red maple (*Acer rubrum*), winterberry (*Ilex verticillata*), royal fern (*Osmunda regalis*), and various sedges (*Carex* spp.) and grasses (family Poaceae). Upland vegetation includes red oak (*Quercus rubra*), white oak (*Quercus alba*), eastern white pine (*Pinus strobus*), gray birch (*Betula populifolia*), cherry birch (*Betula lenta*), autumn olive (*Elaeagnus umbellata*), sweet-fern (*Comptonia peregrina*), glossy false buckthorn (*Frangula alnus*), and several species of poplar (*Populus* spp.).

Additionally, OA delineated a section of Bank (Bank 310 10.54) along the Nashua River with 4 blue plastic flags (OA-B1 to OA-B4). This is also the estimated annual high flow, which constitutes the beginning of the 200-foot Riverfront Area (10.58). In this case, the delineated River is coincident with Bank and its associated 100 foot buffer zone. OA also estimated off-site wetlands, which have associated buffer zones that extend onto the subject property. There are two off site wetlands: a wet meadow east of Airport Drive and a pond, north of Nashua Road.

Regulatory Implications and Recommendations

The pertinent jurisdictional resource areas located on the subject property is BVW, Bank, Bordering Land Subject to Flooding (BLSF: 310 CMR 10.57), and Riverfront Area. These wetlands boundaries are also protected under the wetlands bylaw under Town of Pepperell Wetlands Protection Bylaw (Article 2). The BVW and Bank have a 100 foot buffer zone and the Riverfront is a 200-foot zone extending from the delineated boundary. Furthermore, any work within the A or AE 100-year flood zone is also subject to the performance standards including a prohibition of any fill or structures within the BLSF. The Town of Pepperell Wetlands Protection Bylaw requires a 50 foot wide undisturbed, vegetated strip of naturally occurring plant species maintained between wetland resource areas.

According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP), currently there are no certified vernal pools, or potential vernal pools on the property. A portion of the site, adjacent the Nashua River, is mapped within Priority and Estimated Habitat of rare species (MassGIS, 2017). We recommend filing an Information Request (\$50 fee) with MA NHESP to determine which species are associated with this section of the Nashua River. The result of this request will inform us as to if the NHESP may regulate the entire property under the MA Endangered Species Act, or limit their review to within the mapped habitat shown on MassGIS.

The wetland delineation is OA's interpretation of the wetland boundary and it must be reviewed and approved by the Pepperell Conservation Commission (PCC) before it is the legally affirmed boundary. If work is proposed within the 100-foot buffer zone to off-site wetlands, the PCC may require gaining permission and delineating the wetlands. However, this decision is up to their discretion. The GIS/GPS map we have provided can be used as a planning tool, but OA recommends you work with a Professional Land Surveyor and Professional Engineer to determine the exact extent of the wetlands for site specific permitting. The survey should provide information to determine the exact distance between the wetland resource areas, existing structures, treeline, topography, floodplain, and the proposed limit of work. Floodplain must include both the zone A and AE (with reference elevation).

Any activity proposed within any of the field-delineated wetland boundaries is subject to review by the PCC as well as the Army Corps of Engineers (ACOE) and may require filing a 401 Water Quality Certificate with the Department of Environmental Protection (DEP). Any activity proposed within 100 feet of the BVW boundary is subject to review by the PCC and the DEP.

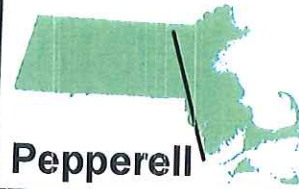
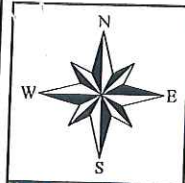
If you have any questions, please do not hesitate to contact Scott Smyers at 978-929-9058 ext. 3 or Matt Charpentier at ext. 2.

Sincerely,



Matthew Charpentier
Botanist/Environmental Scientist I

encs.



Pepperell

ROAD

DOW STREET

AIRPORT DRIVE

ASHUA ROAD

Wetland Series A

Wetland Series B

RH 2029

Legend

- Wetland Flag
- Wetland Line
- 200ft Riverfront
- 100ft Buffer
- DEP Wetlands (Linear)
- DEP Wetlands (Poly)
- NHESP Priority Habitat

Copyright © 2013 National Geographic Society, i-cubed.

1:3,600

1 inch = 300 feet



**Figure 1. Wetland Delineation
2013/2014 Orthophotograph
161 Nashua road
Pepperell, MA**

Oxbow Associates, Inc.

Wetlands Delineations and Permitting
Wildlife Studies • Herpetology
Vernal Pool Ecology

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VIEWS KEYPLAN



VIEW -A

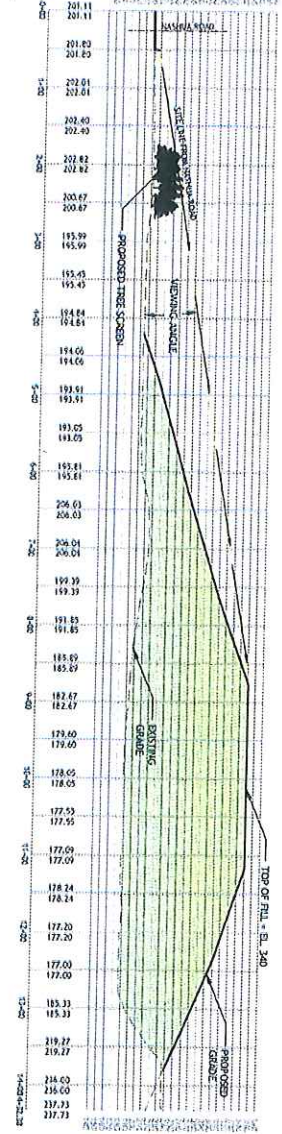


VIEW -C

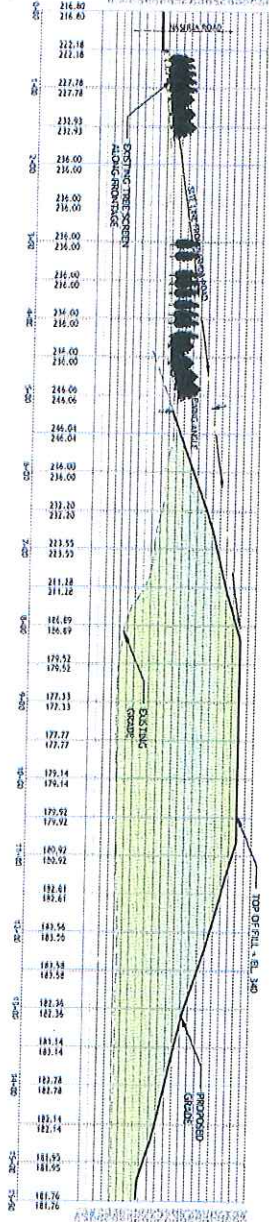


VIEW -B

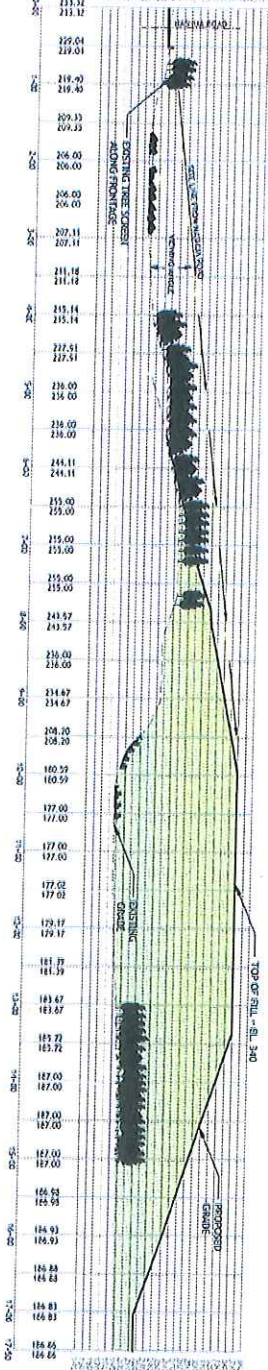
Section A

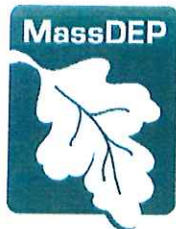


Section B



Section C





Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

Interim Policy on the Re-Use of Soil for Large Reclamation Projects

Policy # COMM-15-01

August 28, 2015

Policy Statement

This Interim Policy provides notice of MassDEP's intent to issue site-specific approvals, in the form of an Administrative Consent Order, to ensure the reuse of large volumes of soil for the reclamation of sand pits, gravel pits and quarries poses no significant risk of harm to health, safety, public welfare or the environment and would not create new releases or threats of releases of oil or hazardous materials.

During the effective period of this policy, MassDEP approval for the filling of sand pits, gravel pits and quarries to which this policy applies will be provided only through Administrative Consent Orders completed by the terms of this policy. Filling operations conducted without MassDEP approval operate at risk of Department enforcement for violations of rules governing solid waste management and oil and/or hazardous material releases.

The use of soil for the reclamation of a quarry, sand pit or gravel pit under the conditions of this policy is considered approved re-use for the purposes of the notification exemption described at 310 CMR 40.0317(13).

Effective Date

This Interim Policy is effective on August 28, 2015. This Interim Policy will remain in effect until it is specifically rescinded or superseded by MassDEP regulations governing soil fill projects promulgated pursuant to Section 277 of Chapter 165 of the Acts of 2014, M.G.L. c. 21E, Section 6, and M.G.L. c. 111, Section 150A. While such future regulations will likely differ in scope and detail from this Interim Policy, the Department anticipates that regulations and policies developed to implement the final approach will specifically accommodate projects commenced under an Administrative Consent Order issued pursuant to this Interim Policy through the incorporation of transition provisions.

Authority

This Interim Policy is implemented pursuant to Section 277 of Chapter 165 of the Acts of 2014¹, M.G.L. c. 21E, § 6² and 310 CMR 40.0000, and M.G.L. c. 111, § 150A³ and 310 CMR 16.00 and 19.000.

Section 277 of Chapter 165 of the Acts of 2014 directs the Department to *"establish regulations, guidelines, standards or procedures for determining the suitability of soil used as fill material for the reclamation of quarries, sand pits and gravel pits. The regulations, standards or procedures shall ensure the reuse of soil poses no significant risk of harm to health, safety, public welfare or the environment considering the transport, filling operations and the foreseeable future use of the filled land."*

M.G.L. c. 21E, § 6 establishes the Department's authority to *"specify reasonable requirements, applicable to sites and vessels where releases of hazardous material or oil might occur and to activities which might cause, contribute to, or exacerbate a release of hazardous material or oil, to prevent and control, and to counter the effects of, such releases. Such requirements may be prescribed... by order under section nine⁴ for specific sites and vessels which the department has determined to... be conducting an activity which poses a threat of release of hazardous material or oil."*

The placement, dumping, disposing or reuse of soil containing oil and/or hazardous material (OHM) into the environment is a "release" as that term is defined in M.G.L. c. 21E § 2⁵. Such dumping, disposing or unapproved re-use of soil is potentially a notifiable release (310 CMR 40.0300) requiring assessment and, where indicated, remediation. Depending upon site-specific conditions and the nature of the OHM present in the soil, such releases may have significant adverse human health and environmental effects. Examples of such effects include:

¹ <https://malegislature.gov/Laws/SessionLaws/Acts/2014/Chapter165>

² <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter21E/Section6>

³ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section150A>

⁴ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter21E/Section9>

⁵ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter21E/Section2>

- contamination of the underlying aquifer through leaching of the OHM;
- human exposure through direct contact with the soil or inhalation of vapors or particulates emanating from the soil;
- degradation of wildlife habitats;
- degradation of neighboring properties, wetlands, and waterways through stormwater runoff; and
- exacerbation of localized flooding.

Applicability

This Interim Policy is applicable to any quarry, gravel pit, or sand pit reclamation project that receives, or plans to receive greater than 100,000 cubic yards of soil for the reclamation/filling of said quarry, gravel pit, or sand pit after August 28, 2015 including:

- Reclamation projects that will begin to receive on site more than 100,000 cubic yards of soil after August 28, 2015;
- Reclamation projects that have commenced physically receiving soil on site on an "at risk" basis prior to August 28, 2015 subject to the regulations, policies and procedures in place prior to August 28, 2015 and which will receive more than 100,000 cubic yards after October 31, 2015;

To be eligible for MassDEP approval pursuant to this Interim Policy, the soil accepted by the quarry, gravel pit or sand pit can contain no more than de minimis quantities of Solid Waste (e.g. Municipal Solid Waste and/or Construction and Demolition Waste) as defined in 310 CMR 16.00 and 310 CMR 19.000.

Soil fill projects to which this policy applies and that are not managed in compliance with this policy may be found to have caused, contributed to, or exacerbated a release of OHM and may be subject to enforcement pursuant to Section 277 of Chapter 165 of the Acts of 2014⁶, M.G.L. c. 21E, § 6⁷ and 310 CMR 40.0000, and/or M.G.L. c. 111, § 150A⁸ and 310 CMR 16.00 and 19.000.

Fill projects that accept any amount of soil (whether pursuant to this Interim Policy or otherwise) must ensure that the filling does not create new, reportable releases of oil or hazardous materials to the environment pursuant to M.G.L. c. 21E and 310 CMR 40.0000, or will not violate M.G.L. c. 111, section 150A, 310 CMR 16.00, or 310 CMR 19.000.

Nothing in this Interim Policy eliminates, supersedes or otherwise modifies any local, state or federal requirements that apply to the management of soil, including any local, state or federal permits or approvals necessary before placing the soil at the receiving location, including, but not limited to, those related to placement of fill, noise, traffic, dust control, stormwater management, wetlands, groundwater or drinking water source protection.

⁶ <https://malegislature.gov/Budget/CurrentBudget>

⁷ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter21E/Section6>

⁸ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section150A>

Implementation

A reclamation project proponent should contact the Regional Director in the MassDEP Regional Office for the region in which the reclamation project is located to initiate the approval process.

In determining whether to issue an Administrative Consent Order to a project proponent for a specific quarry, gravel pit or sand pit reclamation project, MassDEP will review data describing the types and concentrations of OHM contained in the excavated soil proposed to be used for reclamation, data describing the relevant characteristics of the location proposed to receive this soil and the surrounding area, proposed soil management plans, and any other information necessary to ensure the proper handling of the fill material.

As a case-specific approval, the development of an ACO for a reclamation project will necessitate discussions between the Department and the project proponent to identify all the information necessary as a basis for approval. These discussions will likely occur concurrent with the project proponent's discussions with local officials and the development of final soil management plans.

MassDEP will review documentation submitted by project proponents to demonstrate that the appropriate local officials are aware of the project and have been afforded the opportunity for meaningful input. Examples of such documentation may include:

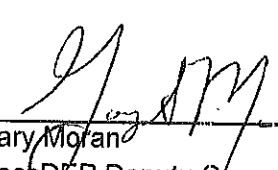
- a copy of any local permit or other approval specific to the use of large volumes of fill material that may be required (municipal approval of an up-to-date reclamation plan for the receiving location, and/or or a municipal permit under an "earth filling" ordinance, and/or any other approval required by a municipality for activities that involve the transportation of soil onto the receiving site); or
- where such local approvals are not required:
 - a copy of any notification to the public in the area surrounding the fill project and the Chief Municipal Official (CMO) and the Chair of the Board of Health (BOH) of the city or town in which the fill project is located of the proposal to use the excavated soil (including a description of the oil and/or hazardous materials that it contains) and
 - a summary of the steps taken to solicit meaningful input from those local officials, copies of comments received, and a description of the ways in which these comments have been (or will be) addressed.

MassDEP will not finalize an Administrative Consent Order on the proposed quarry, gravel pit or sand pit reclamation project unless and until all comments from such local officials on project impacts related to noise, dust, odor and/or trucks have been appropriately addressed by the project proponent.

Administrative Consent Orders will include, as appropriate, requirements for:

- Implementation of a detailed Soil and Fill Management Plan that specifies how material will be sampled⁹, documented, tracked, transported and managed as well as what materials are permitted and not permitted;
- Detailed plans that specify how material will be managed at the reclamation project to prevent nuisance conditions, such as noise, odor, litter and dust;
- Detailed Stormwater Management Plan to prevent impacts to sensitive receptors;
- Detailed Wetlands Impact provisions, including, as applicable, a requirement to obtain an Order of Conditions, Determination of Applicability or other approval or permit to proceed with the project as designed;
- A plan for communicating with the public and involving interested parties at key points in the implementation of the reclamation project;
- Oversight by an LSP or other qualified environmental professional and/or Third Party Inspection program;
- Knowledge of and intention to comply with all applicable laws and regulations; and
- Stipulated penalties for noncompliance with the Administrative Consent Order.

August 28, 2015
Date



Gary Moran
MassDEP Deputy Commissioner

⁹ Soil that has been pre-characterized *in situ* prior to August 28, 2015 using standard practices, procedures and methodologies in place at the time of sampling (for example, characterized for RCRA-8 metals) may be evaluated for use as reclamation soil on the basis of that pre-characterization through August 28, 2016.